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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/555,402

11/02/2005

Norbert Struensee

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EXAMINER

DUONG, THO V

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/555,402	Applicant(s) STRUENSEE, NORBERT	
	Examiner Tho v. Duong	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, “the nozzle devices are provided on the housing”, “a temperature-regulating device”, and "a control and regulating device... according to the signal of a pressure sensor measuring the pressure" must be shown or the feature(s) canceled from the claims 7, 11 and 13. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

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The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the term “bearings” in claim 23 is not supported by the specification. It appears that there is only a single bearing on a rotor.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 1, the claimed subject matter of “it” and “its” render the scope of the claim indefinite since it is not clear what “it” or “its” refers to what element in the claims. Regarding claim 2, the claimed subject matter of “wherein peripheral seals (15,16) are arranged between the periphery of the rotor (3) on the one hand and the housing (2) on the other hand” renders the scope of the claim indefinite since it is not clear whether applicant is claiming that a peripheral seals are arranged between the rotor and the housing or else. Regarding claim 11, the claimed subject matter of “a temperature- regulating device, by means of which the housing or sealing air can, e. g. for the purpose of anti-icing, be temperature- regulated” renders the scope of the claim indefinite since it is not clear what “can, e. g.” means. Regarding claim 13, the claimed subject matter of “through which nozzle devices housing or sealing air can be directed onto a bearing” renders the scope of the claim indefinite since it is not clear what applicant is claiming by “nozzle devices housing or sealing air” . Regarding claim 23, the claimed subject

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matter of “bearings (10) of the rotor (3) are acted upon by housing or sealing air” renders the scope of the claim indefinite since it is not clear whether applicant claims that the air is directed on to the bearing or the bearing is operated by an action of the air. Regarding claims 19 and 20, the claimed subject matter of “supplied from the housing (2) with housing or sealing air” renders the scope of the claim indefinite since it is not clear

Claims 7 and 17 recites the limitation "the operation of the pressure source" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6,8,9,10,12, 14-16, 18-20 and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Kritzler (EP 0588185). Kritzler discloses (figure 4 and column 4, lines 21- column 6, line 23) a rotating heat exchanger with a rotatably mounted rotor (3), which has a first flow sector and a second flow sector for flowing of air in two directions (5,6); a housing (12) encloses the rotor at its periphery; the housing (12) is filled with a sealing air in space (13) and the pressure of the sealing air is higher than the pressure of the airflows (5,6) flowing through the rotor; peripheral seals (9) are arranged fixed in and between of the rotor (3) and the housing (12);

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the pressure of the sealing air can be kept at a constant pressure level above the pressure of the airflow by an external pressure source (fan); airflow separation devices (16) arranged running diametrically at the end faces of the rotor (3) between the two flow sectors; the airflow separation devices being connected to the housing and being able to be supplied with a sealing airflow (27). Regarding claim 10, an airflow separation device (16) is considered to read on a rinsing wedge-like device, which is connected to the housing and able to be supplied with a rinsing airflow by means of the sealing air (27); the rinsing wedge like device is provided at the end face of the rotor in the region of the flow sector in the region of the flow sector for an exhaust air and venting air that is arranged in the rotation direction of the rotor directly before the flow sector for external air and supply air. Kritzler further discloses (figure 4) that the bearing (2) of the rotor is acted upon by the sealing air (27) (sealing air flow through the bearing).

Claims 1-6,8,12, 13,14,15,16,18,22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (US 4,062,129). Yoshida discloses (figures 2 ,3 and column 5, lines 1-31) a rotating heat exchanger with a rotatably mounted rotor (23), which has a first flow sector and a second flow sector, a housing (21) encasing the rotor at the periphery and filled with a sealing air, and that the pressure of the sealing air is higher than the pressure of the airflows flowing through the rotor; peripheral seals (40) are arranged between the periphery of the rotor (23) and the housing (21); the pressure of the sealing air is capable of be kept at a constant pressure above the airflows flowing through the rotor; nozzle devices (46',55) are provided on the housing, which the sealing air can be directed onto a bearing (36,38) of the rotor.

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Claims 1,6-8,11-12,14,18 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kraftanlagen (EP 0297230). Kraftanlagen discloses (figures 1-3) a rotating heat exchanger with a rotatably mounted rotor, which has a first flow sector and a second flow sector, a housing encasing the rotor at the periphery and filled with a sealing air, and that the pressure of the sealing air is higher than the pressure of the airflows flowing through the rotor; a control and regulating device (44,50,60) is capable of controlling the pressure source according to the pressure of the sealing air or of the airflow; and a temperature-regulating device (38) is provided to regulate the temperature of the sealing air.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kritzler in view of Werke (DE 1170106B). Kritzler substantially discloses all of applicant's claimed invention as discussed above except for the limitation of a control and regulating device, which is capable of controlled or regulated according to a pressure sensor. Werke discloses (figures 1-2 and column 3, lines 4-23) a control and regulating device (9), which is capable of controlling an amount of air generated from a pressure source (7,8) pumping into a sealing band of a

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regenerative air heater according to a pressure sensor, for a purpose of effectively controlling the sealing of the heat exchanger. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Werke's teaching in Kritzler's device for a purpose of effectively controlling the sealing of the heat exchanger.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Penny (US 3,880,225) discloses a rotary regenerative heat exchanger.

Sakaki et al. (US 4,136,729) discloses a heat accumulating member for rotary heat exchanger.

JP 53-25958 discloses a rotary heat exchanger.

U. O. Blomquist (US 2,665, 120) discloses a regenerative heat exchanger.

A. Moscardini (US 3,193,336) discloses a cooling arrangement for rotor bearing.

J. Koch (US 3,122,200) discloses a dynamic sealing means for rotary regenerative heat exchanger.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v. Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tyler J. Cheryl can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tho v Duong/
Primary Examiner, Art Unit 3744